



## A NOVEL GENE ASSOCIATED WITH REGULATION OF ADIPOSY AND INSULIN RESPONSE

### ABSTRACT OF THE DISCLOSURE

This invention pertains to the identification and isolation of a gene  
5 implicated in the fatty liver dystrophy (*fld*) phenotype. Mouse and human forms of the  
novel gene, designated herein as *Lpin1/LPIN1* (mouse and human genes, respectively), are  
identified. This invention additionally provides methods of screening for agents that alter  
adipose tissue development. The methods involve contacting a cell containing a *Lpin1*  
gene with a test agent; and detecting a change in the expression or activity of a *Lpin1* gene  
10 product, where a difference in the expression or activity of *Lpin1* in the contacted cell  
indicates that the agent alters or is likely to alter adipose tissue development. Also  
provided are methods of identifying *Lpin1* mutations, and methods of mitigating  
symptoms of lipodystrophy, obesity, diabetes, atherosclerosis and related pathologies.